ANALYTICAL BIOCHEMISTRY

Methods in the Biological Sciences

Volume 261, 1998

EDITOR-IN-CHIEF
William B. Jakoby

EXECUTIVE EDITORS

Assistant to the Editor-in-Chief, William S. Allison

Shelby L. Berger
Ludwig Brand
George M. Carman
Prescott Deininger
Jack E. Dixon
Howard Goldfine
Owen W. Griffith
Ueli Gubler
John A. Hanover
Carlos B. Hirschberg
Robert Ivarie
Barry L. Karger
Y. C. Lee
Maria C. Linder
Irving Listowsky
Walter M. Lovenberg
Peter McPhie
Richard N. Perham
B. David Stollar
M. H. V. Van Regenmortel

William D. McElroy
EDITOR EMERITUS

Alvin Nason, Founding Editor, 1960–1977
Nathan O. Kaplan and William D. McElroy, Editorial Committee Co-Chairmen, 1978–1986

ACADEMIC PRESS

Copyright © 1998 by Academic Press
All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the Publisher. *Exceptions:* It is the policy of Academic Press that authors need not obtain permission in the following cases only: (1) to use their original figures or tables in their future works; (2) to make copies of their papers for use in their classroom teaching; and (3) to include their papers as part of their dissertations.

The appearance of the code at the bottom of the first page of an article in this journal indicates the Publisher's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (222 Rosewood Drive, Danvers, Massachusetts 01923), for copying beyond that permitted by Sections 107 or 108 of the U. S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1998 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0003-2697/98 $25.00

MADE IN THE UNITED STATES OF AMERICA

This journal is printed on acid-free paper.

CONTENTS OF VOLUME 261

NUMBER 1, JULY 15, 1998

Development of a Magnetic Microplate Chemifluorimmunoassay for Rapid Detection of Bacteria and Toxin in Blood *Hao Yu, Hafiz Ahmed, and Gerado R. Vasta* 1

Determination of Anandamide Amidase Activity Using Ultraviolet-Active Amine Derivatives and Reverse-Phase High-Performance Liquid Chromatography *Ce Qin, Sonyuan Lin, Wensheng Lang, Andreas Goutopoulos, Spiro Pavlopoulos, Frank Mauri, and Alexandros Makriyannis* 8

Simultaneous Analysis of 4- and 5-Series Lipoxygenase and Cytochrome P450 Products from Different Biological Sources by Reversed-Phase High-Performance Liquid Chromatographic Technique *Ladislau Kiss, Ewa Bieniek, Norbert Weissmann, Hartwig Schütte, Ulf Sibelius, Andreas Günther, Jens Bier, Konstantin Mayer, Klaus Henneking, Winfried Padberg, Helmut Grimm, Werner Seeger, and Friedrich Grimminger* 16

An Improved Assay for Measurement of Nitric Oxide Synthase Activity in Biological Tissues *Roberto R. Giraldez and Jay L. Zweier* 29

Cleanup and Analysis of Sugar Phosphates in Biological Extracts by Using Solid-Phase Extraction and Anion-Exchange Chromatography with Pulsed Amperometric Detection *Hans Peter Smits, Arieh Cohen, Torbjörn Buttler, Jens Nielsen, and Lisbeth Olsson* 36

Simultaneous Measurement of Desaturase Activities Using Stable Isotope Tracers or a Nontracer Method *Hui-Min Su and J. Thomas Brenna* 43

A High-Throughput, Microtiter Plate Assay for Paralytic Shellfish Poisons Using the Saxitoxin-Specific Receptor, Saxiphilin *Lyndon E. Llewellyn, Jason Doyle, and Andrew P. Negri* 51

Suppression of Adventitious Formation of 8-Oxoguanine$(TMS)_4$ from Guanine during Trimethylsilylation *Jongki Hong, Chang-Hwan Oh, Francis Johnson, and Charles R. Iden* 57

A Study of Imidazole-Based Nuclear Magnetic Resonance Probes of Cellular pH *Charles Gasparovic, Ignasi Barba, Jerry Born, Sandra Barton, Carles Arús, and Paul Mann* 64

Simultaneous Determination of Monosaccharides in Glycoproteins by Capillary Electrophoresis *Tomoyoshi Soga and David N. Heiger* 73

Identification of Hydrazine in Commercial Preparations of Carnosine and Its Influence on Carnosine's Antioxidative Properties *Shengying Zhou, L. Charles Dickinson, Li Yang, and Eric A. Decker* 79

Efficient Antibody Generation Using Histone H1 Subfractions Purified from Western Blots *Philippe Albert and Christophe Redon* 87

Measurement of Sulfate Concentrations and Tracer/Tracee Ratios in Biological Fluids by Electrospray Tandem Mass Spectrometry *Daniel Biosmenu, Line Robitaille, Mazen J. Hamadeh, Pranithi Hongsprabhas, L. John Hoffer, and Orval A. Mamer* 93

Detection of Protein Tyrosine Kinase Activity Using a High-Capacity Streptavidin-Coated Membrane and Optimized Biotinylated Peptide Substrates *Erik M. Schaefer and Scott Guimond* 100

NOTES & TIPS

Recombinant Green Fluorescent Protein as a Label in Binding Assays *Emily C. Hernández and Sylvia Daunert* 113

Long-Term Wet Storage of Sodium Dodecyl Sulfate–Polyacrylamide Gels in Polyethylene Bags *Biji T. Kurien and R. Hal Scofield* 116

Major Improvement of Lectin-Based Assays through Choice of Cation and Optimization of Cation Concentration *Mohammad M. Farajollahi, David B. Cook, and Colin H. Self* 118

Measurement of Thromboxane B_2 in Platelet-Rich Human Plasma by Gas Chromatography–Mass Spectrometry and Gas Chromatography—Tandem Mass Spectrometry Following Extractive Pentafluorobenzyl Esterification *Kathrin S. Tewes, Dimitrios Tsikas, Frank-Mathias Gutzki, and Jürgen C. Frölich* 121

Purification of Trypsin for Mass Spectrometric Identification of Proteins at High Sensitivity *Yanni Zhang, Daniel Figeys, and Ruedi Aebersold* 124

Pitfalls in Assessing Specificity and Affinity of Non-Transferrin-Bound Iron Uptake *Lise Brunner-Döpper, Karin Kriegerbeckova, Jan Kovar, and Hans Goldenberg* 128

NUMBER 2, AUGUST 1, 1998

The Synthesis and Utilization of 2,4-Dinitrophenyl-Labeled Irreversible Peptidyl Diazomethyl Ketone Inhibitors *Susan J. Hawthorne, Maurice Pagano, Patrick Harriott, David W. Halton, and Brian Walker* 131

Low-Affinity Binding Determined by Titration Calorimetry Using a High-Affinity Coupling Ligand: A Thermodynamic Study of Ligand Binding to Protein Tyrosine Phosphatase 1B *Yan-Ling Zhang and Zhong-Yin Zhang* 139

Model and Simulation of Multivalent Binding to Fixed Ligands *Kristian M. Müller, Katja M. Arndt and Andreas Plückthun* 149

A High-Capacity Assay for Activators of Glucose Incorporation into Glycogen in L6 Muscle Cells *Joel Berger and Nancy S. Hayes* 159

Pulsed Ultrafiltration Characterization of Binding. I. A New Method *C.-J. Chen, S. Chen, C. P. Woodbury, Jr., and D. L. Venton* 164

A High-Throughput Fluorescence Screen to Monitor the Specific Binding of Antagonists to RNA Targets *Keita Hamasaki and Robert R. Rando* 183

Development of a Highly Sensitive Chemical Method for Detecting $\alpha 2 \rightarrow$ 8-Linked Oligo/Polysialic Acid Residues in Glycoproteins Blotted on the Membrane *Chihiro Sato, Sadako Inoue, Tsukasa Matsuda, and Ken Kitajima* 191

Linearized Colorimetric Assay for Cremophor EL: Application to Pharmacokinetics after 1-Hour Paclitaxel Infusions *Eric Brouwer, Jaap Verweij, Bernhard Hauns, Walter J. Loos, Kees Nooter, Klaus Mross, Gerrit Stoter, and Alex Sparreboom* 198

Interpreting Kinetic Rate Constants from Optical Biosensor Data Recorded on a Decaying Surface *Lisa Joss, Thomas A. Morton, Michael L. Doyle, and David G. Myszka* 203

Highly Controlled Heterologous Gene Expression through Combined Utilization of the Tetracycline-Repressible Transactivator and the *lac* Repressor *Yutaka Hoshikawa, Keiko Amimoto, Rumiko Mizuguchi, and Masanori Hatakeyama* 211

NOTES & TIPS

Freeing the Target DNA for Amplifying Mismatch Cleaved Products *Ih-Chang Hsu, Wai-Kuo Shih, Dehe Kong, and Jingfan Xu* 219

Development of a High-Throughput *in Vitro* Bioassay to Assess Potencies of Progestagenic Compounds Using Chinese Hamster Ovary Cells Stably Transfected with the Human Progesterone Receptor and a Luciferase Reporter System *Willem G. E. J. Schoonen, Rob J. H. de Ries, Jan W. H. Joosten, Gerrie J. W. Mathijssen-Mommers, and Helenius J. Kloosterboer* 222

Detection of Highly Glycosylated Proteins in Polyacrylamide Gels *Sergio A. Gradilone, Silvia E. Arranz, and Marcelo O. Cabada* 224

Competitive Reverse Transcription–Polymerase Chain Reaction for Determination of Rat CC and C Chemokine mRNAs *Zhou Luo Ou, Yumiko Natori, Naoko Doi, Kiyoshi Kawasaki, Masahiro Nishijima, and Yasuhiro Natori* 227

Gas Chromatographic–Mass Spectrometric Discrimination between 8-iso-Prostaglandin E_2 and Prostaglandin E_2 through Derivatization by *O*-(2,3,4,5,6-Pentafluorobenzyl)hydroxyl Amine *Dimitrios Tsikas, Edzard Schwedhelm, Frank-Mathias Gutzki, and Jürgen C. Frölich* 230

An *in Vitro* Transcription System for the Study of Thyroid-Specific Transcription *Bruno Pichon and Daniel Christophe* 233

Author Index for Volume 261 236

NOTICE

The Subject Index for Volume 261 will appear in the December 15, 1998, issue as part of a cumulative index for the year 1998.